

Claims

1. (Currently amended) A plug connection for fast-fit coupling of two appliances forming part of a medical handpiece system, the plug connection comprising:
 - a first coupling fitting on one of said appliances; and
 - a second coupling fitting on the other of said appliances,

said first coupling fitting having a movable locking plate element thereon and the second coupling fitting having a projecting element thereon projecting toward said first coupling fitting, the projecting element comprising an end portion of a media transfer line or an end portion of an electrical contact and being positioned to engage a surface of an opening in said locking plate element and to move said locking plate element between lock and unlock positions when said first and second coupling fittings are moved toward and away from each other.
2. (Currently amended) The plug connection of claim 1, which further comprises a biasing element urging said locking plate element from its lock position toward its unlock position.
3. (Currently amended) The plug connection of claim 1, wherein said locking plate element and projecting element have mating surfaces which engage one another to cause the locking plate element to move toward its lock position when said coupling fittings are joined.
4. (Cancelled)
5. (Cancelled)
6. (Original) The plug connection of claim 1, wherein said second coupling fitting comprises a circumferential outer sleeve which projects axially outwardly a selected distance from remainder portions of said second coupling fitting and extends about an outer portion of said first coupling fitting when joined, and said projecting element projects outwardly from said remainder portions of said second coupling a distance at least as great as said selected distance.

7. (Currently amended) The plug connection of claim 1, wherein said first coupling fitting comprises a bearing member mounted for shifting between an unlock position and a lock position spaced radially from said unlock position and a ring fitting movable between an unlock position out of urging engagement with said bearing member and a lock position engaging said bearing member and urging the bearing member to its lock position, and said second coupling fitting comprises a groove oriented to align with and receive a portion of said bearing member when said bearing member is in its lock position.

8. (Currently amended) The plug connection of claim 1, wherein said first coupling fitting comprises a bearing member mounted for shifting radially between an unlock position and a lock position spaced outwardly from said unlock position and a ring fitting movable between an unlock position out of urging engagement with said bearing member and a lock position engaging said bearing member and urging the bearing member to its lock position, and said second coupling fitting comprises a groove oriented to align with and receive a portion of said bearing member when said bearing member is in its lock position.

9. (Currently amended) The plug connection of claim 8, which further comprises a spring biasing said ring fitting from its unlock toward its lock position, said locking plate element when in its unlock position is oriented to engage and hold said ring fitting its unlock position, and when said locking plate element is moved to its unlock lock position it releases said ring fitting to allow said ring fitting to move toward its lock position.

10. (Currently amended) The plug connection of claim 9, wherein said ring fitting comprises a stepped portion and said locking plate element engages said stepped portion when in its unlock position.

11. (Currently amended) The plug connection of claim 8, wherein an operator sleeve is mounted on said first coupling, is manually shiftable longitudinally ~~of~~ along said first coupling between first and second positions, and is operatively connected to said ring fitting to move said ring fitting from its lock position to its unlock position.

12. (Original) The plug connection of claim 1, wherein a plurality of media transfer lines and/or electrical contacts are arranged in a selected pattern projecting axially outwardly from remainder portions of said second coupling fitting, and said first coupling fitting comprises a plurality of complementary arranged receptacles into which said media transfer lines and/or electrical contacts may extend when the first and second coupling fittings are joined.

13. (Original) The plug connection of claim 12, wherein said plurality of media transfer lines and/or electrical contacts are arrayed in a semi-circular pattern between the longitudinal axis and the outer periphery of the second coupling fitting.

14. (Currently amended) A plug connection for fast-fit coupling of two appliances forming part of a medical handpiece system, the plug connection comprising,

a first coupling fitting on one of said appliances having a longitudinal axis, said first coupling fitting having a bearing member mounted for shifting radially between an unlock position and a lock position spaced radially from said unlock position, a ring fitting movable between an unlock position out of urging engagement with said bearing member and a lock position ~~engaging said bearing member~~ and urging it to its lock position, a spring biasing said ring fitting toward its lock position, a ~~lock plate~~ locking element movable between an unlock position engaging and inhibiting movement of said ring fitting from its unlock position toward its lock position and a lock position releasing said ring fitting, and a biasing element urging said ~~lock plate~~ locking element from its unlock position toward its lock position, and

a second coupling fitting on the other of said appliances having a longitudinal axis, said second coupling having a groove oriented to align with and receive a portion of said bearing member when the coupling fittings are engaged and said bearing member is in its lock position, and a projecting element extending axially outwardly from remainder portions of said second coupling fitting to engage a portion of said locking ~~plate~~ element and shift the locking ~~plate~~ element toward its unlock position as the first and second coupling fittings are moved axially into engagement with each other.

15. (Currently amended) The plug connection of claim 14, wherein said locking plate element and projecting element have mating surfaces which engage one another to cause the locking plate element to move toward its lock position when said coupling fittings are joined.

16. (Original) The plug connection of claim 14, wherein said second coupling fitting comprises a circumferential outer sleeve which projects axially outwardly a selected distance from remainder portions of said second coupling fitting and extends about an outer portion of said first coupling fitting when joined, and said projecting element projects outwardly from said remainder portions of said second coupling a distance at least as great as said selected distance.

17. (Currently amended) The plug connection of claim 16, wherein said bearing member shifts radially outwardly toward its lock position and said groove is formed on an inner surface of said outer sleeve and said bearing member is shifted by the ring member outwardly towards its lock position when the first and second coupling fittings are joined such that at least a portion of the bearing member occupies the groove.

18. (Currently amended) The plug connection of claim 14, wherein an operator sleeve is mounted on said first coupling, is manually shiftable longitudinally of along said first coupling between first and second positions, and is operatively connected to said ring fitting to move said ring fitting from its lock position to its unlock position.

19. (Original) The plug connection of claim 14, wherein a plurality of media transfer lines and/or electrical contacts are arranged in a selected pattern projecting axially outwardly from remainder portions of said second coupling fitting, and said first coupling fitting comprises a plurality of complementary arranged receptacles into which said media transfer lines and/or electrical contacts may extend when the first and second coupling fittings are joined.

Claims 20-31 (Cancelled)

32. (New) The plug connection of claim 1, wherein the locking element is operable to move between lock and unlock positions when the said first and second coupling fittings are moved axially toward and away from each other, respectively.

33. (New) The plug connection of claim 1, wherein the one of the first coupling fitting and second coupling fitting is associated with a motor and the other of the first coupling fitting and second coupling fitting is associated with a supply conductor, and wherein, when connected, the first coupling fitting and second coupling fitting establish a connection between the motor and the supply conductor.

34. (New) The plug connection of claim 14, wherein the one of the first coupling fitting and second coupling fitting is associated with a motor and the other of the first coupling fitting and second coupling fitting is associated with a supply conductor, and wherein, when connected, the first coupling fitting and second coupling fitting establish a connection between the motor and the supply conductor.

35. (New) A plug connection for fast-fit coupling of two appliances forming part of a medical handpiece system, the plug connection comprising:

a first coupling fitting on one of said appliances and a second coupling fitting on the other of said appliances,

said first coupling fitting having a movable locking element thereon and comprising a bearing member mounted for shifting between an unlock position and a lock position spaced radially from said unlock position,

said second coupling fitting comprises a projecting element thereon projecting toward said first coupling fitting and positioned to engage and move said locking element between lock and unlock positions when said first and second coupling fittings are moved toward and away from each other.

36. (New) The plug connection of claim 35, wherein the first coupling fitting comprises a ring fitting movable between an unlock position out of urging engagement with said bearing member and a lock position urging the bearing member to its lock position.

37. (New) The plug connection of claim 35, wherein the second coupling fitting comprises a groove oriented to align with and receive a portion of said bearing member when said bearing member is in its lock position.

38. (New) The plug connection of claim 35, which further comprises a biasing element urging said locking element from its lock position toward its unlock position.

39. (New) The plug connection of claim 35, wherein said locking element and projecting element have mating surfaces which engage one another to cause the locking element to move toward its lock position when said coupling fittings are joined.

40. (New) The plug connection of claim 35, wherein said projecting element comprises an end portion of a media transfer line and said mating surface of said locking element comprises a surface of an opening in said locking element.

41. (New) The plug connection of claim 35, wherein said projecting element comprises an end portion of an electrical contact and said mating surface of said locking element comprises a surface of an opening in said locking element.

42. (New) The plug connection of claim 35, wherein said second coupling fitting comprises a circumferential outer sleeve which projects axially outwardly a selected distance from remainder portions of said second coupling fitting and extends about an outer portion of said first coupling fitting when joined, and said projecting element projects outwardly from said remainder portions of said second coupling a distance at least as great as said selected distance.

43. (New) The plug connection of claim 35, wherein said first coupling fitting comprises a bearing member mounted for shifting radially between an unlock position and a lock position spaced outwardly from said unlock position and a ring fitting movable between an unlock position out of urging engagement with said bearing member and a lock position urging the bearing member to its lock position, and said second coupling fitting comprises a groove

oriented to align with and receive a portion of said bearing member when said bearing member is in its lock position.

44. (New) The plug connection of claim 43, which further comprises a spring biasing said ring fitting from its unlock toward its lock position, said locking element when in its unlock position is oriented to engage and hold said ring fitting its unlock position, and when said locking element is moved to its lock position it releases said ring fitting to allow said ring fitting to move toward its lock position.

45. (New) The plug connection of claim 44, wherein said ring fitting comprises a stepped portion and said locking element engages said stepped portion when in its unlock position.

46. (New) The plug connection of claim 43, wherein an operator sleeve is mounted on said first coupling, is manually shiftable longitudinally of said first coupling between first and second positions, and is operatively connected to said ring fitting to move said ring fitting from its lock position to its unlock position.

47. (New) The plug connection of claim 35, wherein a plurality of media transfer lines and/or electrical contacts are arranged in a selected pattern projecting axially outwardly from remainder portions of said second coupling fitting, and said first coupling fitting comprises a plurality of complementary arranged receptacles into which said media transfer lines and/or electrical contacts may extend when the first and second coupling fittings are joined.

48. (New) The plug connection of claim 47, wherein said plurality of media transfer lines and/or electrical contacts are arrayed in a semi-circular pattern between the longitudinal axis and the outer periphery of the second coupling fitting.

49. (New) The plug connection of claim 35, wherein the locking element is operable to move between lock and unlock positions when the said first and second coupling fittings are moved axially toward and away from each other, respectively.

50. (New) The plug connection of claim 35, wherein the one of the first coupling fitting and second coupling fitting is associated with a motor and the other of the first coupling fitting and second coupling fitting is associated with a supply conductor, and wherein, when connected, the first coupling fitting and second coupling fitting establish a connection between the motor and the supply conductor.

51. (New) The plug connection of claim 14, wherein said projecting element comprises an end portion of a media transfer line or an end portion of an electrical contact and a mating surface.